



THE UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION

LUCKNOW

Petition No. 2345 of 2026

QUORUM

Hon'ble Shri Arvind Kumar, Chairman

IN THE MATTER OF

Petition under Sections 86(1)(c), 86(1)(e), and 86(1)(k) of the Electricity Act, 2003 along with Regulation 15 of the UPERC (Rooftop Solar PV Grid Interactive Systems Gross/Net Metering) Regulations, 2019, Clause 14 of the Guidelines for Peer-to-Peer Solar Energy Transaction Through Blockchain Based Platform, and the relevant provisions of the UPERC (Conduct of Business) Regulations, 2019 seeking issuance of directions and exercise of removal of difficulty powers for pilot interstate peer-to-peer trading of renewable energy under the India Energy Stack framework.

AND

IN THE MATTER OF

Pashchimanchal Vidyut Vitran Nigam Limited,

(Through its Authorised Representative), Urja Bhavan, Victoria Park, Meerut – 250001.

.....Petitioner

THE FOLLOWING WERE PRESENT

1. Sri D.C. Verma, Chief Engineer, PVVNL
2. Sri Sanjay k Chaurasia, SE, UPPCL
3. Sri Vivek Srivastav, SE, PVVNL
4. Sri C.P. Maurya, AE, UPPCL
5. Sri Divyanshu Bhatt, Advocate, PVVNL
6. Sri Shashwat Singh, Advocate, PVVNL
7. Sri Abhyaditya Singh, Advocate, PVVNL
8. Sri Priyavrat Tomar, Sr. Engr., ISGF





ORDER
(DATE OF HEARING: 13.02.2026)

1. The present Petition has been filed by PVVNL under sections 86(1)(c), 86(1)(e), and 86(1)(k) of the Electricity Act, 2003 along with Regulation 15 of the UPERC (Rooftop Solar PV Grid Interactive Systems Gross/Net Metering) Regulations, 2019, Clause 14 of the Guidelines for Peer-to-Peer Solar Energy Transaction Through Blockchain Based Platform, and the relevant provisions of the UPERC (Conduct of Business) Regulations, 2019 seeking issuance of directions and exercise of removal of difficulty powers for pilot interstate peer-to-peer trading of renewable energy under the India Energy Stack framework.
2. It has been submitted that the Petitioner is a distribution licensee in terms of Section 14 of the Act and is operational in 11 distribution zones in the state of Uttar Pradesh and accordingly, the operational area of the Petitioner is exclusively within the jurisdiction of this Hon'ble Commission.
3. Petitioner has also submitted that the present Petition has been preferred seeking appropriate regulatory approval and facilitation for implementation of a pilot demonstration of interstate P2P trading of green energy under the aegis of the India Energy Stack, as envisaged by the Ministry of Power, Government of India, in furtherance of national objectives of digitalization of the power sector, promotion of renewable energy, and development of consumer-centric electricity markets.
4. The Petitioner has further submitted that the MoP launched the IES initiative in June 2025 as a Digital Public Infrastructure framework for the power sector and nominated REC Limited as the nodal agency for implementation. Pursuant thereto, a Task Force of industry, utility, and academic experts was constituted, and FSR Global was appointed as Knowledge Partner, which culminated in the issuance of the IES Strategy 0.2 and IES Architecture 0.2 documents dated 17.12.2025, inter alia, envisaging pilot demonstration of interstate P2P trading as a foundational use case under the proposed Digital Energy Grid on Unified Energy Interface architecture.





5. The Petitioner has further submitted that REC Limited and the MoP thereafter accepted the proposal of India Smart Grid Forum (ISGF) to undertake a pilot demonstration of interstate P2P trading in the National Capital Region involving three distribution licensees in two States, namely PVVNL under UPPCL, Tata Power Delhi Distribution Limited and BSES Rajdhani Power Limited in Phase I, followed by Dakshin Haryana Bijli Vitran Nigam in Phase II.
6. The Petitioner has further submitted that this Hon'ble Commission issued the P2P Guidelines dated 05.04.2023, thereby becoming the first SERC in India to establish a structured regulatory framework enabling P2P trading of rooftop solar energy within a distribution licensee's area of supply.
7. The Petitioner has further submitted that notwithstanding the issuance of the aforesaid UPERC Guidelines, scaling up of P2P transactions within Uttar Pradesh could not be undertaken due to practical challenges and to address the challenges, ISGF, in collaboration with FIDE, proposed the development of an overlay digital architecture termed the DEG under which, prosumers and consumers publish bids and offers on interoperable platforms, enter into day-ahead contracts through digital discovery and negotiation, secure financial settlement through escrow and RBI-compliant payment gateways, and reconcile actual energy flows based on smart meter data validated on a blockchain trust layer, with final billing adjustments being passed to DISCOM systems, thereby ensuring regulatory compliance, revenue assurance, and operational integrity.
8. The Petitioner has further submitted that the proposed pilot project has been accorded priority by the MoP and REC Limited and is required to be operationalized on a fast-track basis thereby imparting significant national and international visibility to India's digital energy transition.
9. The Petitioner has submitted that while both UP and Delhi have issued P2P guidelines framed for intra-State and intra-DISCOM transactions and do not contemplate interstate P2P trading, nor do they address allocation of wheeling charges, treatment of interstate system operation charges or reconciliation of cross-border billing and





settlement mechanisms required for such demonstration projects. A comparative chart of the Guidelines issued by UP and Delhi has also been submitted as below:

S. No.	Parameter	DERC Guidelines	UPERC Guidelines	Issues requiring consideration for implementation of the P2P Pilot Project
1	Date of Issue	24 th June 2024	05 th April 2023	-
2	Title	Delhi Electricity Regulatory Commission (Peer to Peer Energy Transaction) Guidelines, 2024	Guidelines for Peer-to-Peer Solar Energy Transaction through Blockchain Platform	-
3	Eligible Participants	Prosumers and consumers \leq 200 kW sanctioned load; RE capacity up to 500% of sanctioned load	Prosumers with rooftop solar (Gross/ Net metering) and Consumers within same DISCOM	Change required for Prosumers with rooftop solar (Gross/ Net metering/Net Billing) and Consumers across PVVNL and the Delhi distribution licensees, namely TPDDL and BRPL, for the duration and purpose of the pilot
4	Registration Process	Registration through DISCOM and approved P2P platform	Registration with DISCOM and empaneled P2P platform	No change required
5	Registration Charge	Nil	As specified by DISCOM / Platform	No change required
6	Metering Requirement	ToD compliant Energy Meter or Smart Meter mandatory	Post-paid Smart Meter mandatory for both prosumer and consumer	Changes required as Smart Meter mandatory for both prosumer and consumer
7	Technology Platform	Blockchain or any other secure digital technology	Mandatory Blockchain based P2P platform	Change required Blockchain or any other secure digital technology
8	Transaction Price	Dynamic / mutually agreed price between Prosumers and Consumers	Mutually agreed price between P2P participants on P2P Platform	No change required
9	Transaction Charges	To be approved by DERC based on DISCOMs petition	₹0.42/kWh (incl. GST) shared equally by buyer and seller	No change required





10	Wheeling Charges	Nil for both Prosumers and Consumers	Applicable as per applicable UPERC tariff order	Changes required to levy and sharing of wheeling charges at ₹1.01/kWh for interstate peer-to-peer transactions undertaken under the proposed pilot project, permitted to be shared equally between PVVNL and the concerned Delhi distribution licensees, namely TPDDL and BRPL, for the duration and purpose of the pilot
11	Network / Open Access (OA) Charges	Complete waiver of wheeling, CSS and additional surcharge till 31 March 2026	Wheeling charges applicable; Cross Subsidy Surcharge (CSS) – waived; Additional surcharge – Nil	No change required
12	Settlement and Billing	Billing by DISCOM / Service Provider; priority settlement for P2P energy	Billing by DISCOM; P2P settlement integrated with DISCOM billing cycle	Change required to make the settlements for the current month transactions in the subsequent months' billing cycle
13	RPO Treatment for P2P Transaction	Counts towards DISCOM RPO if consumer not obligated	RPO benefit retained by DISCOM	No change required
14	Notable / Distinguishing Features	Most progressive framework; strong financial incentives and charge exemptions	First detailed state level P2P framework in India; clear scheduling, deviation and settlement rules	No change required
15	Time Block for transaction	Schedule to be submitted at least 8 time blocks before commencement of supply; no rescheduling thereafter	Day-ahead scheduling by 17:00 hrs of (n-1) day; intraday scheduling allowed up to 4 time blocks before delivery	Change required for pilot that Schedule to be submitted at least 8 time blocks before commencement of supply; no rescheduling thereafter
16	Restriction on Energy unit trade w.r.t. the capacity of the solar plant.	Prosumer cannot transact more than 20% CUF of installed RE capacity per day	Prosumer cannot transact more than actual rooftop solar generation per day	No change required





17	Under injection of energy by P2P Prosumer	Prosumer pays the difference between DISCOM tariff and agreed P2P price for the shortfall energy	Prosumer pays the difference between DISCOM energy charges and mutually agreed P2P price for the shortfall energy	Change required for waiver of penalties relating to under-injection by prosumers under the existing UPERC Guidelines for Peer-to-Peer Solar Energy Transaction, for the duration and scope of the proposed interstate pilot project
18	Under-drawl of energy by P2P Consumer	Consumer pays full pledged P2P quantum to Prosumer; excess energy injected settled at DISCOM landed cost	Consumer pays full committed P2P energy to Prosumer; excess energy injected into grid settled with DISCOM	Change required for waiver of penalties relating under-drawl by consumers under the existing UPERC Guidelines for Peer-to-Peer Solar Energy Transaction, for the duration and scope of the proposed interstate pilot project

10. The Petitioner has further submitted that the proposed pilot is limited in scope, envisaging onboarding of prosumers and consumers across PVVNL, TPDDL, and BRPL in Phase I, and is intended solely for demonstration, testing, and regulatory learning purposes, without any material adverse impact on grid security, consumer tariffs, DISCOM revenues, or system operations. It has further been submitted that the proposed pilot will operate entirely within the physical distribution networks of the participating DISCOMs, without creation of any parallel infrastructure, and with full reliance on smart meter data, DISCOM MDM systems, and billing systems for reconciliation, thereby preserving the statutory functions and obligations of the licensees under the Act.

11. The Petitioner has further submitted in view of the facts and circumstances stated in the Petition, the limited scope, pilot nature and national importance of the proposed interstate P2P demonstration under the India Energy Stack, and the absence of any adverse impact on grid security, consumer interests, or the regulatory framework, this Hon'ble Commission may graciously be pleased to grant the requisite approvals, relaxations and directions as prayed for.





12. The Petitioner has further submitted that the reliefs sought by the Petitioner are for the limited purposes of the pilot project. The Petitioner reserves its right to approach the Hon'ble Commission in the future for a more detailed dispensation after gathering the learnings from the implementation of the Pilot Project.
13. In view of the foregoing facts and averments, the Petitioner has made the following prayers:
- i) Grant approval to use Blockchain or any other secure digital technology;
 - ii) Grant approval for Prosumers with rooftop solar (Gross / Net Metering / Net Billing) and Consumers across PVVNL and the Delhi distribution licensees, namely TPDDL and BRPL, to be eligible participants for the duration and purpose of the pilot;
 - iii) Grant approval for levy and sharing of wheeling charges at ₹1.01/kWh for interstate peer-to-peer transactions undertaken under the proposed pilot project, permitted to be shared equally between PVVNL and the concerned Delhi distribution licensees, namely TPDDL and BRPL, for the duration and purpose of the pilot;
 - iv) Grant approval for levy of platform service fees at ₹0.21/kWh (inclusive of GST) payable by both prosumers and consumers participating in the pilot project within the jurisdiction of this Hon'ble Commission, and to permit applicability of the same structure for counterpart participants in Delhi for the purposes of harmonised interstate settlement;
 - v) Permit energy charges for peer-to-peer transactions under the pilot project to be mutually discovered and settled directly between prosumers and consumers on the digital platform, without routing such energy charges through the billing systems of the distribution licensees, subject to indemnification of the DISCOMs from any disputes or liabilities arising therefrom;
 - vi) Grant waiver of penalties relating to under-injection by prosumers and under-drawal by consumers under the existing UPERC P2P Guidelines for the duration and scope of the proposed interstate pilot project;





- vii) Grant waiver of applicability of Cross Subsidy Surcharge and any additional surcharges in respect of energy transacted under the proposed interstate peer-to-peer pilot, in line with the regulatory dispensation prevailing in other participating States and in furtherance of the pilot's demonstration objectives;
- viii) Permit, for the limited purposes of the pilot project, settlement of interstate peer-to-peer transactions without application of InSTS/ISTS transmission charges, losses, RLDC/SLDC charges, open access charges, and scheduling, dispatch and DSM modalities and charges ordinarily applicable to interstate electricity transactions, subject to such regulatory coordination as may be required;
- ix) Permit onboarding of prosumers and consumers within the jurisdiction of PVVNL for participation in Phase I of the pilot project, and to allow phased expansion thereafter as contemplated under the approved project implementation plan;
- x) Grant relaxation of the extant provisions of the P2P Guidelines mandating the installation of post-paid meters for participation on the peer-to-peer platform;
- xi) Permit the peer-to-peer transactions on pre-paid smart meters along with post-paid smart meters and allow for settlement of the current month's transactions in the subsequent month's billing cycle;
- xii) Grant approval, for the purposes of the pilot, for the Schedule to be submitted at least 8 time blocks before commencement of supply and for no rescheduling to be allowed thereafter;
14. During the hearing the Commission observed that DERC has already issued an Order dated 11.02.2026 in Petition No. 06/2026, in similar matter wherein the Petitioner BSES Rajdhani Power Ltd. has sought approvals for the same pilot project for its license area in Delhi.
15. The Commission pointed out an error apparent on the face of record in column 4 of serial no. 3 of the 'Table' provided on page 11 of the Petition wherein prosumers with rooftop solar only under Gross or Net metering configurations have been shown as





eligible under UPERC P2P Guidelines and Commission's approval has been sought to extend the eligibility to prosumers under Net Billing configuration also. The Commission pointed out that first proviso of Clause 3 of the "Guidelines for peer-to-peer solar energy transaction through blockchain based platform" already allows all such prosumers having rooftop solar installed in their premises under UPERC (Rooftop Solar PV Grid Interactive Systems Gross/Net Metering) Regulations, 2019 to register on P2P platform as sellers.

16. The Commission pointed out another error apparent on the face of record in column 4 of serial no. 6 of the 'Table' provided on page 11 of the Petition wherein Post-paid Smart Meter has been shown mandatory under UPERC P2P Guidelines whereas the Commission has already issued an amendment to Clause 5 'Metering' of the "Guidelines for peer-to-peer solar energy transaction through blockchain based platform" on 18.12.2025 mandating requirement of smart meter for P2P consumers as well as P2P prosumers in any payment mode.
17. The Commission pointed out yet another error apparent on the face of record in column 4 of serial no. 11 of the 'Table' provided on page 12 of the Petition wherein Cross Subsidy Surcharge has been shown as 'waived' whereas UPERC P2P Guidelines provide for levying of CSS as per applicable UPERC Tariff Order.
18. After examining the preliminary submissions made under the present Petition and the oral submissions made by the Counsel and the officers of the Petitioner in the light of the UPERC Guidelines for peer-to-peer solar energy transaction through blockchain based platform, UPERC (Rooftop Solar PV Grid Interactive Systems Gross/Net Metering) Regulations, 2019 and also the DERC Order dated 11.02.2026 in similar matter, the Commission hereby Order and permit the Petitioner to undertake peer-to-peer energy transactions within its licensed area as well as inter-state in accordance with the UPERC P2P Guidelines with the deviations, as sought by the Petitioner in para 13 herein above and approved by the Commission to the extent and in the manner stated herein below:





- a. As per the oral request of the Petitioner, this Order shall be applicable only for the pilot project for a period of upto six months from the date of issuance of this Order.
- b. In regard to the prayer made out in para 13 i) herein above, blockchain or any other secure digital technology shall be allowed to be used for the pilot.
- c. As far as the prayer made in para 13 ii) herein above, the issue of eligibility of prosumers with Net billing for P2P transactions has already been corroborated in para 15 of this Order and accordingly no relaxation is required. Further, UPERC P2P Guidelines allow P2P participants to transact energy through P2P platform within the area of the Distribution licensee. However, for the rollout of pilot interstate P2P trading of renewable energy under the India Energy Stack framework and pursuant to the DERC Order dated 11.02.2026, the Petitioner is allowed to facilitate the P2P energy transactions by the inter-state consumers and the prosumers, subject to the conditions and relaxations approved in this Order.
- d. UPERC P2P Guidelines provide levying of wheeling charges as per the applicable UPERC Tariff Order, which is presently ₹1.01/kWh. DERC in its Order dated 11.02.2026 has disallowed recovery of wheeling charges for intra-state Discoms as well as inter-state Discoms P2P transactions within the territorial limit of NCT of Delhi. However, vide para 14(ii) read with para 15(d) of its Order dated 11.02.2026, DERC has allowed recovery of wheeling charges as per UPERC Regulations for PVVNL from consumers (buyers) of BSES undertaking P2P energy transactions with prosumers in state of Uttar Pradesh. The Commission has no objection to this arrangement.
- e. DERC in its Order dated 11.02.2026 has allowed recovery of transaction charges of ₹0.42/kWh (inclusive of GST) for intra-state as well as inter-state transactions. The Commission, therefore, reciprocating the Order of DERC, allows recovery of transaction charges for intra-state as well as inter-state transactions which shall be borne equally by the prosumer and the consumer.





- f. Para 8a) & 8b) of the 'Procedure for Registration of Service Provider-Peer to Peer Solar Energy Transaction' submitted by UPPCL and approved by the Commission vide letter dated 24.10.2024 already provides for Billing and collection of energy charges (at mutually agreed transaction price) and other charges to be carried out by the Service provider at P2P platform and hence no relaxation is required.
- g. The Commission allows waiver of penalty relating to under-injection by prosumers, however in case of over injection, the provisions stipulated in the guidelines shall continue to apply. The Commission also allows waiver of penalty relating to under-drawl by consumers, however in case of over drawl, the provisions stipulated in the guidelines shall continue to apply.
- h. As per the prayer made by the Petitioner waiver of applicability of Cross Subsidy Surcharge is allowed in respect of the energy transacted under the proposed interstate peer-to-peer pilot project.
- i. The waiver of charges applicable to interstate electricity transactions as prayed in para 13 viii) herein above does not fall under the purview of SERCs.
- j. This Order is applicable only for the Phase-1 and 2 of the proposed pilot demonstration of interstate P2P trading of green energy under the aegis of the India Energy Stack for a period of upto six months from the date of issuance of this Order.
- k. The issue related to Smart meter has already been elucidated in para 16 of this Order and accordingly requires no relaxation.
- l. The Licensee shall provide monthly bills to all prepaid consumers, similar to postpaid consumers, incorporating P2P transactions as per the provision of Tariff Order and Supply Code. This provision shall be applicable for intra State P2P transactions as well.





m. For intraday transactions, P2P participants shall be allowed to submit their schedule for the energy to be transacted on P2P platform at least 8 time blocks before the commencement of schedule. No deviation in schedule shall be allowed beyond this point.

19. The Petition is disposed of with the above observations



Place: Lucknow

Dated: 16.02.2026


(Arvind Kumar)
Chairman